U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE:	**11/30/97**
SUBJECT:	Naples Truck Stop Removal Action, Vernal, UT
FROM:	H. Hays Griswold, OSC Phone: (303) 312-6809
TO:	Director, ERD
POLREP No.:	**POLREP 52**

II. BACKGROUND

SITE No.:	43P808L008
Case No.:	U940169
FPN No.:	114009
D.O. No.:	NA
Response Agency:	EPA Region VIII
Address:	999 18th Street, Suite 500 Denver, CO 80202
Response Authority:	CWA, OPA (1990)
Party Conducting Action:	EPA (PRFA w/USACE)
ERNS No.:	U940169
NPL Status:	NA
State Notification:	State requested EPA action
Action Memorandum Status:	NA
Start Date:	February 22, 1994
Demobilization Date:	NA
Completion Date:	To Be Determined

III. SITE INFORMATION

A. Incident Category

The incident occurred at an active facility - a Service Station/Truck Stop/Petroleum Bulk Distributor.

B. Site Description

1. Site Description

No change from previous Polreps.

2. Description of Threat

No change.

C. Site Evaluation Results

Preliminary sampling results of water effluent to POTW with recovery wells RW-1, RW-2, RW-3, RW-4, RW-9, RW-10, RW-11 and RW-12 in operation indicated levels of TPH as gasoline at **2.0 mg/l**, below the discharge limit of 25 mg/l for TPH (sample collected on **11/11/97**). Water analysis was performed for gasoline/BTEX by EPA test methods M8015V and SW8020.

Preliminary results of air samples collected from the treatment system on **11/11/97** indicated **480 ppmv** for total volatile petroleum hydrocarbons (TVPH) as gasoline within the final air influent to the vapor treatment unit. This value is **higher** than the last reported value collected in **October** of **0.93 ppmv** for TVPH. **The increase in vapor influent is due to more efficient operation of the groundwater treatment system following completion of several mechanical modifications. The effluent concentration from the vapor treatment system was reported at 5.2 ppmv.** These air samples were analyzed according to modified EPA Method MTO-3S.

Monthly groundwater sampling from fourteen of the fifteen existing monitoring wells continues to indicate detectable levels of hydrocarbon contamination within **six** of the tested wells. A maximum concentration of **29 mg/l** hydrocarbons as gasoline was detected from monitoring well No. **MW10** located in the center of the suspected plume of groundwater contamination. This level of contamination is **higher** than the **14.1 mg/l value detected in October** within the same well. Water analysis was performed for gasoline/BTEX by EPA test methods M8015V and SW8020.

IV. RESPONSE INFORMATION

A. Situation

Date of Notification:	2/08/94
Date of Discovery:	11/01/93
Date Action Started:	2/15/94
Material Involved:	Unleaded Gasoline
Quantity Discharged:	7000 + gallons
Substantial Threat:	Yes
Resource Affected:	Unnamed tributary to Ashley Creek, tributary to Green River
Source Identification:	Naples Truck Stop

1. Removal Actions to Date

Removal of contaminated water and soil vapor continues through operation of the dual-phase groundwater pump-and-treat system.

In **November** 1997, approximately **838,000** gallons of water were extracted and discharged to the POTW (based on flow measurements for the month of **November**).

2. **Enforcement**

No change from previous Polreps.

B. Planned Removal Actions

Continue to operate, maintain and sample from the operating system unless notified otherwise by USACE/EPA.

C. Next Steps

Continue to monitor the system, including monthly analysis of soil vapor samples at the exhaust of the water treatment system. Continue to monitor effluent to POTW water samples to ensure water can be directly discharged to POTW without treatment.

D. Key Issues

Table 1 shows preliminary results of water sampling from the monitoring wells for **November and final results for October 1997.**

Table 1- Hydrocarbon Concentrations (as Gasoline)

Well No.	TPH Concentration in October (mg/l)	TPH Concentration in November (mg/l)
MW01	ND	ND
MW02	2.5	1.4
MW03	ND	ND
MW04	1.9	4.5
MW06	ND	ND
MW08	4.1	5.1
MW09	1.9	1.7
MW10	14.1	29
MW14	ND	ND
MW15	ND	ND
VMP01	ND	ND
VMP02	12.9	16
NGMW01	ND	ND
NGMW06	ND	ND

V. COST INFORMATION

Project Ceiling . . . . . $ 2,350,000.00

	Costs to Date	Ceiling
Extramural		
TAT	$ 60,000	$ 70,000
USACE (Omaha)	$ 850,000	$ 1,300,000
USACE (Sacramento)	$1,049,629	$ 1,366,929
Intramural		
Direct Reimbursable	$ 9,000	$ 30,000
Direct Recoverable	$ 9,000	

The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report is written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

REMOVAL CONTINUES:
H. Hays Griswold, OSC
1500 hrs, November 30, 1997

c:
Rich Haavisto, USACE-Sacramento
Larry Leahy, USACE-Omaha
Mike Sajadi, JEG
Al Meyers, IT Corp.
Renee Zollinger, Kleinfelder

ATTACHMENT A

QUARTERLY MONITORING RESULTS FOR AUGUST, SEPTEMBER, AND OCTOBER 1997

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I. Standard List of Abbreviations

II. Data Quality Assessment

III. Summary of Analytical Data from Site Monitoring Wells

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VII. Graphical Representation of Vapor Treatment Concentrations Over Time

VIII. Summary of Quarterly Monitoring Results

PART I

Standard List of Abbreviations

AG	Ambient Air
BZ	Benzene
BZME	Toluene
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
COC	Chain of Custody
DIESELCOMP	Total Hydrocarbons as Diesel
DQA	Data Quality Assessment
EBZ	Ethylbenzene
EPOTW 01	Water Effluent to POTW Sample
FD1	Field Duplicate Sample
HC	Hydrocarbons
J	Indicates an Estimated Value
LCS	Laboratory Control Samples
MG/L	Milligram Per Liter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MW	Monitoring Well Installed by IT Corp
NA	Not Applicable
NGMW	Monitoring Well Installed by EPA
N1	Normal Type Sample
NJ	Indicates Presumptive Evidence of the Presence of the Analyte
PHCG	Petroleum Hydrocarbons as Gasoline
PPBV	Parts Per Billion by Volume
PPMV	Parts Per Million by Volume
QA/QC	Quality Assessment/Quality Control
RC	Reason Code
RPD	Relative Percent Difference
RQL	Reporting Quantitation Limit
SOP	Standard Operating Procedure
TB1	Trip Blank Sample WG

PART I

Standard List of Abbreviations (continued)

THCHX	Total Hydrocarbon Hexane
µg/L	Micrograms Per Liter
U	Indicates the Analyte was not Detected and the Associated Value is the Laboratory Reporting Quantitation Limit
USACE	United States Army Corps of Engineers
VEATM 01	Vapor Effluent to Atmosphere Sample
VEBIO 01	Vapor Effluent Sample
VIBIO 01	Vapor Influent Sample
VMP01	Vapor Monitoring Well
WEBIO 01	Water Effluent Sample
WIBIO 01	Water Influent Sample
WG	Groundwater Sample
WQ	Water Quality Sample
WW	Waste Water Sample

PART II.

Data Quality Assessment

This data quality assessment (DQA) for the Naples Truck Stop System is applicable to the analytical results for the following groundwater and vapor samples (listed in Table 1) collected during the months of August, September, and October 1997 (one monthly sample from each location). The vapor stack sample (STACK01) was added to monitor the effluent emissions of the vapor treatment system, in accordance with Utah regulations.

TABLE 1 - SAMPLE LOCATION SUMMARY

Sample Location Name	*Sample Location ID*	*Number of Locations*
Groundwater Monitoring Wells	MW01 - 04, 06, 08 - 10, 14, 15, and NGMW01 & 06	twelve groundwater (GW) wells
Effluent to POTW01	EPOTW01	one GW port
Vapor Monitoring Point #1	VMP01	one GW port
Vapor Monitoring Point #2	VMP02	one GW port
Vapor Influent to First BioTank	VIBIO01	one vapor port
Vapor Stack Sample	STACK01	one vapor port

The groundwater samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) by method SW8020 and total volatile petroleum hydrocarbons (TVPH) as gasoline by method M8015V. All method defined QA/QC requirements specified in SW-846 Test Methods for Evaluating Solid Waste Physical (Chemical Methods, US EPA, January 1995, 3rd edition, Updates I, II, IIA, and IIB) were followed. These samples were analyzed by EMAX Laboratories of Torrance, California.

The vapor samples were collected in SUMMA canisters and analyzed for BTEX and TVPH as using elements specified in the EPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (April 1984) by method MTO-3S (modified for this analysis). These samples were analyzed by Air Toxics, LTD. of Folsom, California.

The data are of acceptable quality and are considered usable to support the U.S. Army Corps of Engineers (USACE), Naples Utah Truck Stop Project. The precision, accuracy, and completeness objectives for this sampling event were met. Table 4 (A & B) shows the sampling and analytical completeness of the number of samples planned and collected, and the number of analytical results accepted. Completeness is measured in two ways; 1) sampling completeness (samples collected vs. planned), and 2) analytical completeness (percent of analytical results with acceptable values vs. the number of requested analyses).

Data Evaluation Process

The samples were organized into work orders. A work order number is assigned by the laboratory and contains all environmental samples received by the laboratory for a given day. Data verification was performed in accordance with the general principles defined in the Jacobs Data Verification Standard Operating Procedure (SOP). Analytical results for the locations indicated in Table 1 were reported in the work orders listed in Table 2.

Evaluation of Blank Contamination

If an analyte was found in a blank and the associated sample, the following rules were applied: When the sample concentration was at or above the MDL and less than 5 times the highest concentration found in any associated blank, the sample result was reported as not detected (ND). The MDL for the affected analyte in all associated samples was changed to the concentration initially reported for the sample and the sample result was qualified as an estimated nondetect (UJ) with a reason code (2 and/or 7) due to method and/or field blank contamination. The sample's PQL was adjusted to 5 times the concentration detected in the blank, if the adjusted value was greater than the existing PQL value. In the event of a sample requiring dilution, the result concentration for an analyte was divided by the dilution factor before using the 5 times (10 times for the common laboratory contaminants*) comparison rule to the blank concentration.

When the sample concentration was greater than or equal to 5 times (10 times for the common laboratory contaminants*) the highest concentration found in any associated blank, the result was considered positive, and no qualifier was required.

Corrective Action for Blank Contamination

When the blank concentration was less than the PQL, there was no corrective action required by the QAPP. If the blank concentration was equal to or greater than the PQL and there was a detection of that analyte in an associated sample, the corrective action taken is discussed in the individual analytical test section.

TABLE 2 -SAMPLE WORK ORDERS

Lab / Work Order Number	*Matrix*	*Analytical Method*
EMAX / 97H032	water	M8015V & SW8020
ATL / 9708124	vapor	MTO-3S (modified)
EMAX / 97I013	water	M8015V & SW8020
ATL / 9709055	vapor	MTO-3S (modified)
EMAX / 97J096	water	M8015V & SW8020
ATL / 9710295	vapor	MTO-3S (modified)

The following quality control (QC) parameters were evaluated:

- holding times
- laboratory method blanks
- field blanks (trip blanks)
- surrogate recoveries
- matrix spike and matrix spike duplicate (MS/MSD) recoveries
- laboratory control sample (LCS) recoveries
- field duplicate (FD) precision

All results, including data qualifier flags, are presented in Part III **(Tables 1 and 2)**, Summary of Analytical Data from Site Monitoring Wells in Part IV **(Tables 3, 4, and 5)**, and Summary of Analytical Data from Site Treatment System in Attachment A. All analytical results that required the addition of a qualifier flag based on the evaluation process are discussed below. Table 3, in this section, provides a summary of all qualified data. When a result is qualified, a reason code (RC) is also added to the affected sample result and both the qualifier and reason

code are entered into the database. The qualifier flags and reason codes used for the Naples project results are summarized below:

Qualifier Flags

J = indicates an estimated value

Reason Codes

T = trace concentration detected

Holding Times

All samples were analyzed within the technical holding time limits for all requested analytical methods.

Laboratory Method Blanks

All laboratory method blanks were analyzed at the required frequency and all were free of contamination at the method detection limit (MDL), with the exception of the method blank analyzed on 9 September 1997 for method SW8020. The blank had a trace level concentration (0.37 µg/L) of toluene. The associated sample data did not required qualifying due to method blank contamination, since all sample results were below the PQL or five times larger than the blank contamination.

Field Blanks

Trip blanks were collected and analyzed with the associated groundwater samples for each monthly monitoring event. All trip blanks were free of contamination at the MDL.

Surrogates

For methods M8015M and SW8020, surrogate compounds are added to each groundwater sample to measure method performance and possible matrix effect. Recoveries were within control limits for all samples. For method MTO-3S, the addition of surrogates is not required.

Laboratory Control Samples

The LCS is the primary measure of accuracy and monitors overall method performance by the laboratory, independent of matrix effects. The laboratory ran LCS and LCS Duplicate samples at the appropriate frequency with each analytical batch for the three work orders, since an MS/MSD pair was not specified by the field sampling crew. All spike recoveries were within the project required control limits. For precision the relative percent difference (RPD) between the LCS and LCS Duplicate is measured. All the RPD values were within the project precision requirements.

Matrix Spike/ Matrix Spike Duplicates

The MS/MSD pair is used to measure precision and assess matrix effects. The MS/MSD pairs were not requested by the field sampling crew. The laboratory performed LCS Duplicates on all analytical batches and selected an alternate project

sample for MS/MSD. This follows the guidelines specified in the June 1995 Naples Truck Stop Project Quality Assurance Project Plan. The laboratory selected samples from two of the three work orders to analyzed as MS/MSD, this is at a frequency of 4 percent for the groundwater samples. All spike recoveries and RPD's were within the project required control limits. MS/MSD pairs were not required for the vapor samples.

Field Duplicates

Field duplicates are collected to measure field sampling precision. Duplicate samples were sampled at a frequency of one per sampling event or 7 percent for methods M8015V and SW8020. Field duplicates were not collected for method MTO-3S due to the small number of samples (two per event). The field duplicate precision objective (RPD control limit) is 40% for groundwater samples, which was met for all the sample and field duplicate pairs collected.

Preliminary Result Corrections

During the internal review of the preliminary data by the laboratory (ATL), the following errors were identified and corrected in the final data package. The toluene, ethyl benzene, and total xylenes results (0.005 J, 0.009 J, and 0.027 ppmv) in the STACK01 sample (17 October 1997) were incorrectly quantitated and changed to 0.006 J, 0.010, and 0.028 ppmv. The benzene result (0.050 ppmv) in the VIBIO01 sample (17 October 1997) was incorrectly quantitated and changed to 0.051 ppmv. This should cover any discrepancy between the quarterly report and the monthly report.

Trace Values

Fifteen sample results analyzed by method SW8020, five sample results analyzed by method MTO-3S, and two sample results analyzed by method SW8015M were qualified as estimated values (J-flag, reason code T) because the detected concentrations were greater than the method detection limit, but less than the practical quantitation limit (see Table 3). The result values are in µg/L units for the aqueous BTEX results, in mg/L units for the aqueous gasoline results, and in ppmv units for the vapor results.

Table 3 - SUMMARY OF QUALIFIED DATA						
Location Id	*Lab Sample Number*	*Date Sampled*	*Matrix*	*Method*	*Analyte*	*Result Value, Qualifier & Reason Code*
MW01	97H032-01	5-Aug-97	water	SW8020	benzene	0.987 J(T)
"	97I013-01	3-Sep-97	water	SW8020	benzene	0.79 J(T)
MW02	97H032-02	5-Aug-97	water	SW8020	toluene	3.24 J(T)
MW03	97I013-03	3-Sep-97	water	SW8020	toluene	0.389 J(T)
MW04	97I013-04	3-Sep-97	water	SW8020	toluene	3.52 J(T)
"	97J096-12	17-Oct-97	water	SW8020	toluene	1.8 J(T)
MW06	97H032-05	5-Aug-97	water	SW8020	toluene	0.273 J(T)
"	97I013-05	3-Sep-97	water	SW8020	toluene	0.343 J(T)
"	97I013-05	3-Sep-97	water	SW8015V	gasoline	0.047 J(T)
MW08	97H032-06	5-Aug-97	water	SW8020	toluene	7.3 J(T)
"	97I013-06	3-Sep-97	water	SW8020	toluene	6.59 J(T)
"	97J096-14	17-Oct-97	water	SW8020	toluene	4.4 J(T)
MW14	97H032-16	5-Aug-97	water	SW8015V	gasoline	0.048 J(T)
MW15	97I013-17	3-Sep-97	water	SW8020	toluene	0.736 J(T)
NGMW01	97I013-14	3-Sep-97	water	SW8020	toluene	0.811 J(T)
NGMW06	97H032-15	5-Aug-97	water	SW8020	toluene	0.283 J(T)
EPOTW01 FD	97J096-02	17-Oct-97	water	SW8020	toluene	0.97 J(T)
VIBIO01	9710295-02A	17-Oct-97	vapor	MTO-3S	toluene	0.004 J(T)
"	9710295-02A	17-Oct-97	vapor	MTO-3S	xylenes	0.019 J(T)
STACK01	9709055-01A	3-Sep-97	vapor	MTO-3S	xylenes	0.014 J(T)
"	9710295-01A	17-Oct-97	vapor	MTO-3S	benzene	0.002 J(T)
"	9710295-01A	17-Oct-97	vapor	MTO-3S	toluene	0.006 J(T)

Completeness

Overall sampling and analytical completeness objectives (90 percent) were met (see Table 4(A) and 4(B).

TABLE 4 (A) - SAMPLING COMPLETENESS	
Sample Event	Groundwater Pump & Treat System, Naples Truck Stop
Laboratory	EMAX Laboratories and Air Toxics, LTD.
Matrix	Groundwater & Soil Vapor
Analytical Methods	MTO-3S, M8015V, & SW8020 (BTEX)
Sampling Period	Aug, Sep, and Oct 1997
Total Number of Samples Planned	45
Total Number of Samples Collected	45
Sampling Completeness (%)	100

TABLE 4 (B) - ANALYTICAL COMPLETENESS	
Sample Event	Groundwater Pump & Treat System, Naples Truck Stop
Laboratory	EMAX Laboratories and Air Toxics, LTD.
Analytical Methods	MTO-3S, M8015V, SW8020 (BTEX)
Sampling Period	Aug, Sep, and Oct 1997
Total Number of Samples Analyzed	45
Total Number of Results Reported	225
Total Number of Results Accepted	225
Total Number of Results Rejected	0
Analytical Completeness (%)	100

* Table 4(A & B) does not include TBs and FDs.

Summary

The quality of the data is acceptable and all analyte results are usable with only minor qualifications. Some analyte results are qualified as estimated (J) due to the values detected being between the laboratory Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). Precision, accuracy, and completeness objectives were met for all analytes.

PART III

Summary of Analytical Data from Site Monitoring Wells

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
MW01	14-Jan-97	WG	N1	MG/L	0.036 U
	11-Feb-97	WG	N1	MG/L	0.19
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.27
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.126
	17-Oct-97	WG	N1	MG/L	0.04 U
MW02	14-Jan-97	WG	N1	MG/L	3.1
	11-Feb-97	WG	FD1	MG/L	3.7
	11-Feb-97	WG	N1	MG/L	2.8
	04-Mar-97	WG	N1	MG/L	1.2
	02-Apr-97	WG	N1	MG/L	2.8
	06-May-97	WG	N1	MG/L	3.48
	11-Jun-97	WG	N1	MG/L	3
	15-Jul-97	WG	N1	MG/L	1.5
	05-Aug-97	WG	N1	MG/L	1.88
	03-Sep-97	WG	N1	MG/L	3.93
	17-Oct-97	WG	N1	MG/L	2.5

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **MG/L = Milligrams per Liter**

PHCG = Petroleum Hydrocarbons (Gasoline) **U = Non-detect**

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
MW03	14-Jan-97	WG	N1	MG/L	0.036 U
	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
MW04	14-Jan-97	WG	N1	MG/L	2.8
	11-Feb-97	WG	N1	MG/L	2.3
	04-Mar-97	WG	N1	MG/L	3.5
	02-Apr-97	WG	N1	MG/L	3.1
	06-May-97	WG	N1	MG/L	4.97
	11-Jun-97	WG	N1	MG/L	2.1
	15-Jul-97	WG	N1	MG/L	2.3
	05-Aug-97	WG	N1	MG/L	0.911
	03-Sep-97	WG	N1	MG/L	3.3
	17-Oct-97	WG	N1	MG/L	1.9
MW06	14-Jan-97	WG	N1	MG/L	0.036 U
	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.3
	02-Apr-97	WG	N1	MG/L	0.04 U

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **MG/L = Milligrams per Liter**

PHCG = Petroleum Hydrocarbons (Gasoline) **U = Non-detect**

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
MW06	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.047 J :T
	17-Oct-97	WG	N1	MG/L	0.04 U
MW08	14-Jan-97	WG	N1	MG/L	5.9
	11-Feb-97	WG	N1	MG/L	4.3
	04-Mar-97	WG	N1	MG/L	8.2
	02-Apr-97	WG	N1	MG/L	4.7
	06-May-97	WG	N1	MG/L	6.88
	11-Jun-97	WG	N1	MG/L	4.3
	15-Jul-97	WG	N1	MG/L	2.1
	05-Aug-97	WG	N1	MG/L	2.54
	03-Sep-97	WG	N1	MG/L	4.57
	17-Oct-97	WG	N1	MG/L	4.1
MW09	14-Jan-97	WG	N1	MG/L	1.8
	11-Feb-97	WG	N1	MG/L	1.2
	04-Mar-97	WG	N1	MG/L	3.9
	02-Apr-97	WG	N1	MG/L	6.5
	06-May-97	WG	N1	MG/L	5.49
	11-Jun-97	WG	N1	MG/L	3.5
	15-Jul-97	WG	N1	MG/L	0.9
	05-Aug-97	WG	N1	MG/L	4.93

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **MG/L = Milligrams per Liter**

PHCG = Petroleum Hydrocarbons (Gasoline) **U = Non-detect**

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
MW09	03-Sep-97	WG	N1	MG/L	1.27
	17-Oct-97	WG	N1	MG/L	1.5
MW10	14-Jan-97	GS	N1	MG/L	45
	11-Feb-97	WG	N1	MG/L	21
	04-Mar-97	WG	N1	MG/L	18
	02-Apr-97	WG	N1	MG/L	21.8
	06-May-97	WG	N1	MG/L	17.6
	11-Jun-97	WG	N1	MG/L	22.4
	15-Jul-97	WG	N1	MG/L	15
	05-Aug-97	WG	N1	MG/L	21.6
	03-Sep-97	WG	N1	MG/L	36.1
	17-Oct-97	WG	N1	MG/L	14.1
MW14	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.0482 J :T
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
MW15	15-Jan-97	WG	FD1	MG/L	0.036 U
	15-Jan-97	WG	N1	MG/L	0.036 U

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **MG/L = Milligrams per Liter**

PHCG = Petroleum Hydrocarbons (Gasoline) **U = Non-detect**

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
MW15	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
NGMW01	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
NGMW06	14-Jan-97	WG	N1	MG/L	0.036 U
	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U

Legend:

WG = Water N1 = Environmental Sample FD1 = Field Duplicate Sample MG/L = Milligrams per Liter

PHCG = Petroleum Hydrocarbons (Gasoline) U = Non-detect

Analytical Data Summary Table 1

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah **Method: M8015V**

Location	Sample Date	Matrix	Sample Type	Units	PHCG
NGMW06	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
VMP01	15-Jan-97	WG	N1	MG/L	0.036 U
	11-Feb-97	WG	N1	MG/L	0.04 U
	04-Mar-97	WG	N1	MG/L	0.04 U
	02-Apr-97	WG	N1	MG/L	0.04 U
	06-May-97	WG	N1	MG/L	0.04 U
	11-Jun-97	WG	N1	MG/L	0.04 U
	15-Jul-97	WG	N1	MG/L	0.04 U
	05-Aug-97	WG	N1	MG/L	0.04 U
	03-Sep-97	WG	N1	MG/L	0.04 U
	17-Oct-97	WG	N1	MG/L	0.04 U
VMP02	14-Jan-97	WG	N1	MG/L	24
	11-Feb-97	WG	N1	MG/L	9.5
	04-Mar-97	WG	N1	MG/L	13
	02-Apr-97	WG	N1	MG/L	14
	06-May-97	WG	N1	MG/L	13.9
	11-Jun-97	WG	N1	MG/L	12.6
	15-Jul-97	WG	N1	MG/L	10
	05-Aug-97	WG	N1	MG/L	20.8
	03-Sep-97	WG	N1	MG/L	12.6
	17-Oct-97	WG	N1	MG/L	12.9

Legend:

WG = Water N1 = Environmental Sample FD1 = Field Duplicate Sample MG/L = Milligrams per Liter
PHCG = Petroleum Hydrocarbons (Gasoline) U = Non-detect

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
MW01	14-Jan-97	WG	N1	UG/L	1.14	0.257 U	0.252 U	0.762 U
	11-Feb-97	WG	N1	UG/L	89.3	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	10.7	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	3.67	0.257 U	0.252 U	0.762 U
	06-May-97	WG	N1	UG/L	10.1	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	177	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	1.99 UJ :7	0.257 U	0.252 U	0.762 U
	05-Aug-97	WG	N1	UG/L	0.987 J :T	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.79 J :T	0.257 U	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
MW02	14-Jan-97	WG	N1	UG/L	202	9.63	315	342
	11-Feb-97	WG	FD1	UG/L	299	6.43 U	385	380
	11-Feb-97	WG	N1	UG/L	318	6.98 J :T	443	531
	04-Mar-97	WG	N1	UG/L	48.2	3.69 J :T	171	98.4
	02-Apr-97	WG	N1	UG/L	30.9	3.37	144	238
	06-May-97	WG	N1	UG/L	157	6.56 J :T	290	329
	11-Jun-97	WG	N1	UG/L	118	5.15	283	318
	15-Jul-97	WG	N1	UG/L	96.6	3.7 J :T	157	177
	05-Aug-97	WG	N1	UG/L	82.3	3.24 J :T	182	70.8
	03-Sep-97	WG	N1	UG/L	209	13.8	337	329
	17-Oct-97	WG	N1	UG/L	280	57	190	160
MW03	14-Jan-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace level detection**

UJ:2 = Estimated non-detect due to method blank contamination **UJ:7 = Estimated non-detect due to field blank contamination**

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
MW03	11-Feb-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.238 U	0.257 U	0.543 UJ :7	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.389 J :T	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.35 J :T	0.762 U
MW04	14-Jan-97	WG	N1	UG/L	640	3.62 J :T	212	298
	11-Feb-97	WG	N1	UG/L	606	2.07 J :T	238	351
	04-Mar-97	WG	N1	UG/L	353	73	243	592
	02-Apr-97	WG	N1	UG/L	26.8	1.1	31.7	94.1
	06-May-97	WG	N1	UG/L	456	5.78	304	769
	11-Jun-97	WG	N1	UG/L	131	1.8 J :T	159	313
	15-Jul-97	WG	N1	UG/L	258	2.57 U	171	253
	05-Aug-97	WG	N1	UG/L	32.4	1.03	72.4	83
	03-Sep-97	WG	N1	UG/L	268	3.52 J :T	211	356
	17-Oct-97	WG	N1	UG/L	311	1.8 J :T	140	57
MW06	14-Jan-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Feb-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U

Legend:

WG = Water | N1 = Environmental Sample | FD1 = Field Duplicate Sample | UG/L = Micrograms per Liter | BZ = Benzene

BZME = Toluene | EBZ = Ethylbenzene | U = Non-detect | J:T = Estimated due to Trace level detection

UJ:2 = Estimated non-detect due to method blank contamination | UJ:7 = Estimated non-detect due to field blank contamination

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
MW06	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.238 U	0.257 U	0.352 UJ :7	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.273 J :T	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.343 J :T	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
MW08	14-Jan-97	WG	N1	UG/L	615	32.7	365	688
	11-Feb-97	WG	N1	UG/L	703	32.4	328	644
	04-Mar-97	WG	N1	UG/L	657	28.6 J :T	410	704
	02-Apr-97	WG	N1	UG/L	362	68.9	175	481
	06-May-97	WG	N1	UG/L	845	52.1	355	377
	11-Jun-97	WG	N1	UG/L	314	15.6	215	431
	15-Jul-97	WG	N1	UG/L	97	3.97 J :T	82.3	174
	05-Aug-97	WG	N1	UG/L	158	7.3 J :T	200	322
	03-Sep-97	WG	N1	UG/L	245	6.59 J :T	182	296
	17-Oct-97	WG	N1	UG/L	490	5.14 U	190	92
MW09	14-Jan-97	WG	N1	UG/L	1050	6.58 J :T	139	53 J :T
	11-Feb-97	WG	N1	UG/L	394	1.28 U	39.5	11.5 J :T
	04-Mar-97	WG	N1	UG/L	1550	12.9 U	585	654
	02-Apr-97	WG	N1	UG/L	2050	115	309	385
	06-May-97	WG	N1	UG/L	1790	6.43 U	576	447
	11-Jun-97	WG	N1	UG/L	1560	2.38 J :T	159	49
	15-Jul-97	WG	N1	UG/L	277	5.71 UJ :2	25.5	29.9 J :T

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace level detection**

UJ:2 = Estimated non-detect due to method blank contamination

UJ:7 = Estimated non-detect due to field blank contamination

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
MW09	05-Aug-97	WG	N1	UG/L	655	5.04 U	52.4	15.2 U
	03-Sep-97	WG	N1	UG/L	387	2.57 U	54	7.62 U
	17-Oct-97	WG	N1	UG/L	220	1.28 U	1.26 U	97
MW10	14-Jan-97	GS	N1	UG/L	14400	2970	1910	9390
	11-Feb-97	WG	N1	UG/L	33300	4960	4080	20600
	04-Mar-97	WG	N1	UG/L	12400	2460	1590	8400
	02-Apr-97	WG	N1	UG/L	10100	3780	1400	7730
	06-May-97	WG	N1	UG/L	11800	1380	1850	9170
	11-Jun-97	WG	N1	UG/L	13500	893	1970	8940
	15-Jul-97	WG	N1	UG/L	1520	63.6	292	1330
	05-Aug-97	WG	N1	UG/L	9120	425	1780	7480
	03-Sep-97	WG	N1	UG/L	14000	447	2050	9000
	17-Oct-97	WG	N1	UG/L	11000	180	850	2500
MW14	11-Feb-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U

Legend:

WG = Water
N1 = Environmental Sample
FD1 = Field Duplicate Sample
UG/L = Micrograms per Liter
BZ = Benzene
BZME = Toluene
EBZ = Ethylbenzene
U = Non-detect
J:T = Estimated due to Trace level detection
UJ:2 = Estimated non-detect due to method blank contamination
UJ:7 = Estimated non-detect due to field blank contamination

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
MW15	15-Jan-97	WG	FD1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jan-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Feb-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.715 J :T	0.257 U	0.252 U	0.796 J :T
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.245 UJ :7	0.257 U	0.252 U	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.736 J :T	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
NGMW01	11-Feb-97	WG	N1	UG/L	1.68	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.411 J :T	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.811 J :T	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
NGMW06	14-Jan-97	WG	N1	UG/L	0.83 J :T	0.257 U	0.252 U	0.762 U
	11-Feb-97	WG	N1	UG/L	11.9	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	1.2	0.257 U	0.252 U	0.762 U

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace level detection**

UJ:2 = Estimated non-detect due to method blank contamination **UJ:7 = Estimated non-detect due to field blank contamination**

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
NGMW06	02-Apr-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	05-Aug-97	WG	N1	UG/L	0.238 U	0.283 J :T	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
VMP01	15-Jan-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Feb-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	04-Mar-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	02-Apr-97	WG	N1	UG/L	0.937 J :T	0.257 U	0.252 U	0.978 J :T
	06-May-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	11-Jun-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	15-Jul-97	WG	N1	UG/L	0.326 UJ :7	0.414 J :T	0.252 U	1.67 UJ :7
	05-Aug-97	WG	N1	UG/L	0.238 U	0.252 U	0.257 U	0.762 U
	03-Sep-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
	17-Oct-97	WG	N1	UG/L	0.238 U	0.257 U	0.252 U	0.762 U
VMP02	14-Jan-97	WG	N1	UG/L	10000	78.6 J :T	1450	1220
	11-Feb-97	WG	N1	UG/L	9550	43 J :T	1700	936
	04-Mar-97	WG	N1	UG/L	6430	12.9 U	1170	535
	02-Apr-97	WG	N1	UG/L	7050	3410	338	7300
	06-May-97	WG	N1	UG/L	11000	33.5	827	3270
	11-Jun-97	WG	N1	UG/L	7730	117	280	3450

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace level detection**

UJ:2 = Estimated non-detect due to method blank contamination **UJ:7 = Estimated non-detect due to field blank contamination**

Analytical Data Summary Table 2

Monitoring Well Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
VMP02	15-Jul-97	WG	N1	UG/L	2690	25.7 U	560	760
	05-Aug-97	WG	N1	UG/L	1810	71.9	1020	1120
	03-Sep-97	WG	N1	UG/L	6230	12.9 U	483	313
	17-Oct-97	WG	N1	UG/L	1100	12.9 U	440	107 J :T

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace level detection**

UJ:2 = Estimated non-detect due to method blank contamination **UJ:7 = Estimated non-detect due to field blank contamination**

PART IV

Summary of Analytical Data from Site Treatment System

Analytical Data Summary Table 3

Treatment System Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: MTO-3S

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	PHCG	XYLENES
STACK01	08-May-97	GS	N1	PPMV	0.055 J :T1	0.18 J :1	0.09 J :T1	22 J :1	0.41 J :1
	11-Jun-97	GS	N1	PPMV	0.013 U	0.063 J :T	0.021 J :T	16	0.2
	15-Jul-97	GS	N1	PPMV	0.006 J :T	0.02	0.007 J :T	20	0.071
	06-Aug-97	GS	N1	PPMV	0.012	0.012	0.024	4.7	0.089
	03-Sep-97	GS	N1	PPMV	0.002 U	0.002 U	0.002 U	2.1	0.014 J :T
	17-Oct-97	GS	N1	PPMV	0.002 J :T	0.006 J :T	0.01	0.44	0.028
VIBIO01	04-Mar-97	GS	N1	PPMV	43	57	5.9	2000	61
	05-Mar-97	GS	N1	PPMV	71	82	11	3300	99
	02-Apr-97	GS	N1	PPMV	40	48	4.5	2000	48
	06-May-97	GS	N1	PPMV	21	8.7	2.9	220	16
	11-Jun-97	GS	N1	PPMV	5.2	0.12 U	0.12 U	660	0.24 U
	15-Jul-97	GS	N1	PPMV	4.8	7.6	2.7	880	23
	06-Aug-97	GS	N1	PPMV	2.9	5	7.1	1600	24
	03-Sep-97	GS	N1	PPMV	0.82	0.75	0.63	140	6.8
	17-Oct-97	GS	N1	PPMV	0.051	0.004 J :T	0.012	0.93	0.019 J :T

Legend:

GS = Soil Gas **N1 = Environmental Sample** **PPMV = Parts per Million Volume** **U = Non-detect**

BZ = Benzene **BZME = Toluene** **EBZ = Ethylbenzene** **PHCG = Petroleum Hydrocarbons (Gasoline)**

J:T = Estimated due to trace level vaues **J:T1 or J:1 = Estimated due to holding time violation and/or trace level values**

Analytical Data Summary Table 4

Treatment System Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: M8015V

Location	Sample Date	Matrix	Sample Type	Units	PHCG
EPOTW01	04-Mar-97	WG	FD1	MG/L	3.3
	04-Mar-97	WG	N1	MG/L	3.4
	05-Mar-97	WG	N1	MG/L	5.5
	02-Apr-97	WG	FD1	MG/L	7.4 J :8
	02-Apr-97	WG	N1	MG/L	11.7 J :8
	06-May-97	WG	FD1	MG/L	5.25
	06-May-97	WG	N1	MG/L	5.62
	11-Jun-97	WG	FD1	MG/L	8.3
	11-Jun-97	WG	N1	MG/L	7.7
	15-Jul-97	WG	FD1	MG/L	3.2
	15-Jul-97	WG	N1	MG/L	2.6
	05-Aug-97	WG	N1	MG/L	6.94
	03-Sep-97	WG	FD1	MG/L	1.26
	03-Sep-97	WG	N1	MG/L	1.36
	17-Oct-97	WG	FD1	MG/L	0.13
	17-Oct-97	WG	N1	MG/L	0.14

Legend:

WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **MG/L = Milligrams per Liter**

PHCG = Petroleum Hydrocarbons (Gasoline) **U = Non-detect**

Analytical Data Summary Table 5

Treatment System Sampling Results Between 1-AUGUST-97 and 31-OCTOBER-97

Facility: Naples Truck Stop, Utah

Method: SW8020

Location	Sample Date	Matrix	Sample Type	Units	BZ	BZME	EBZ	XYLENES
EPOTW01	04-Mar-97	WG	FD1	UG/L	317	464	52.1	771
	04-Mar-97	WG	N1	UG/L	310	454	50.5	758
	05-Mar-97	WG	N1	UG/L	753	857	125	1470
	02-Apr-97	WG	FD1	UG/L	911	1110	153	2120
	02-Apr-97	WG	N1	UG/L	892	1080	153	2080
	06-May-97	WG	FD1	UG/L	1130	397	162	918
	06-May-97	WG	N1	UG/L	1050	369	150	855
	11-Jun-97	WG	FD1	UG/L	439	750	136	2790
	11-Jun-97	WG	N1	UG/L	436	748	135	2790
	15-Jul-97	WG	FD1	UG/L	322	128	49	639
	15-Jul-97	WG	N1	UG/L	279	110	43.8	570
	05-Aug-97	WG	N1	UG/L	187	191	34	1710
	03-Sep-97	WG	FD1	UG/L	107	15.7	17.3	292
	03-Sep-97	WG	N1	UG/L	113	16.7	18.9	315
	17-Oct-97	WG	FD1	UG/L	36.5	0.974 J :T	5.33	6.6
	17-Oct-97	WG	N1	UG/L	38	1.2	5.7	7.7

Legend:

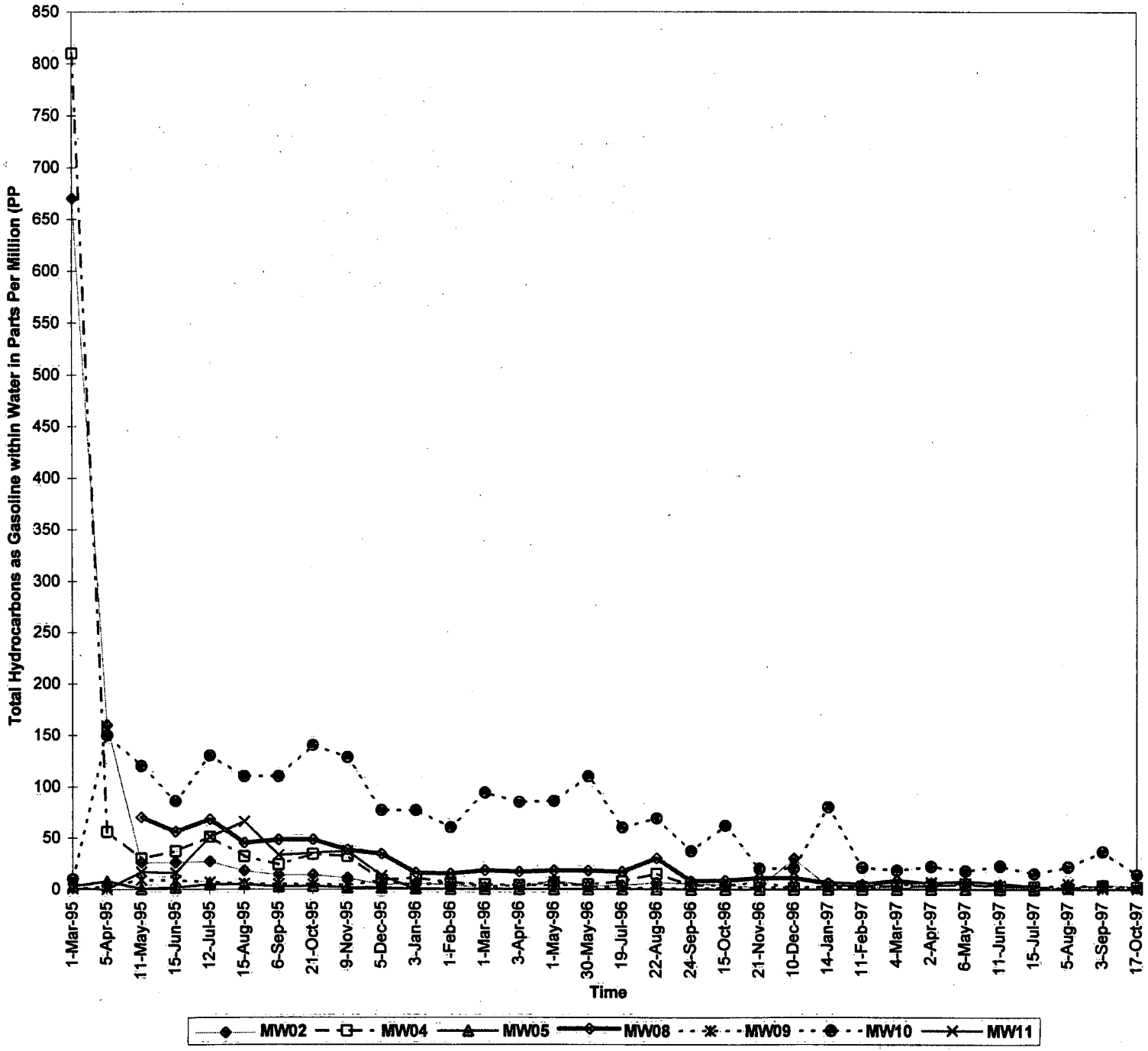
WG = Water **N1 = Environmental Sample** **FD1 = Field Duplicate Sample** **UG/L = Micrograms per Liter** **BZ = Benzene**

BZME = Toluene **EBZ = Ethylbenzene** **U = Non-detect** **J:T = Estimated due to Trace-level detection**

UJ:2 = Estimated non-detect due to method blank contamination

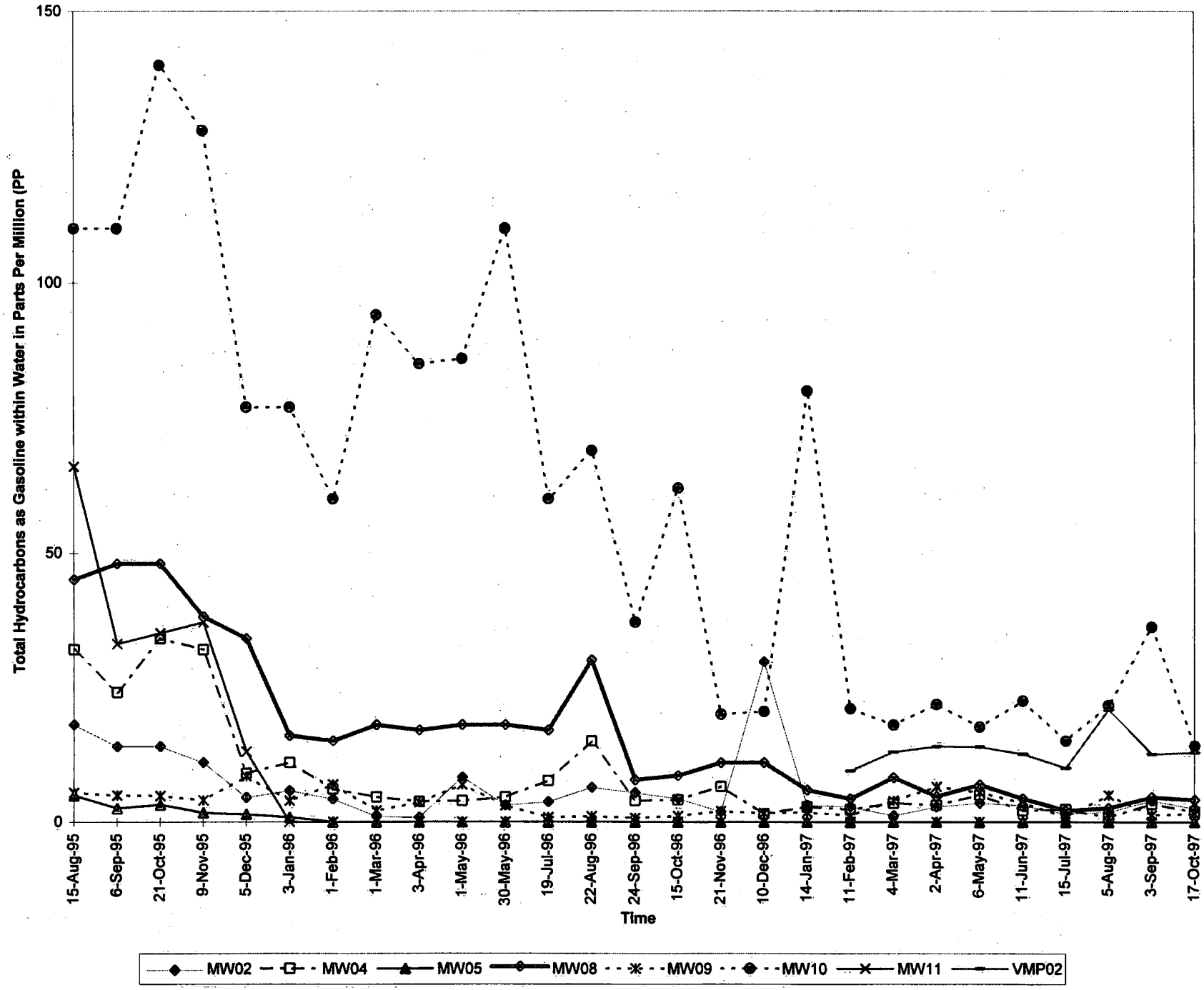
UJ:7 = Estimated non-detect due to field blank contamination

Part V.a Monitoring Well Concentrations Over Time



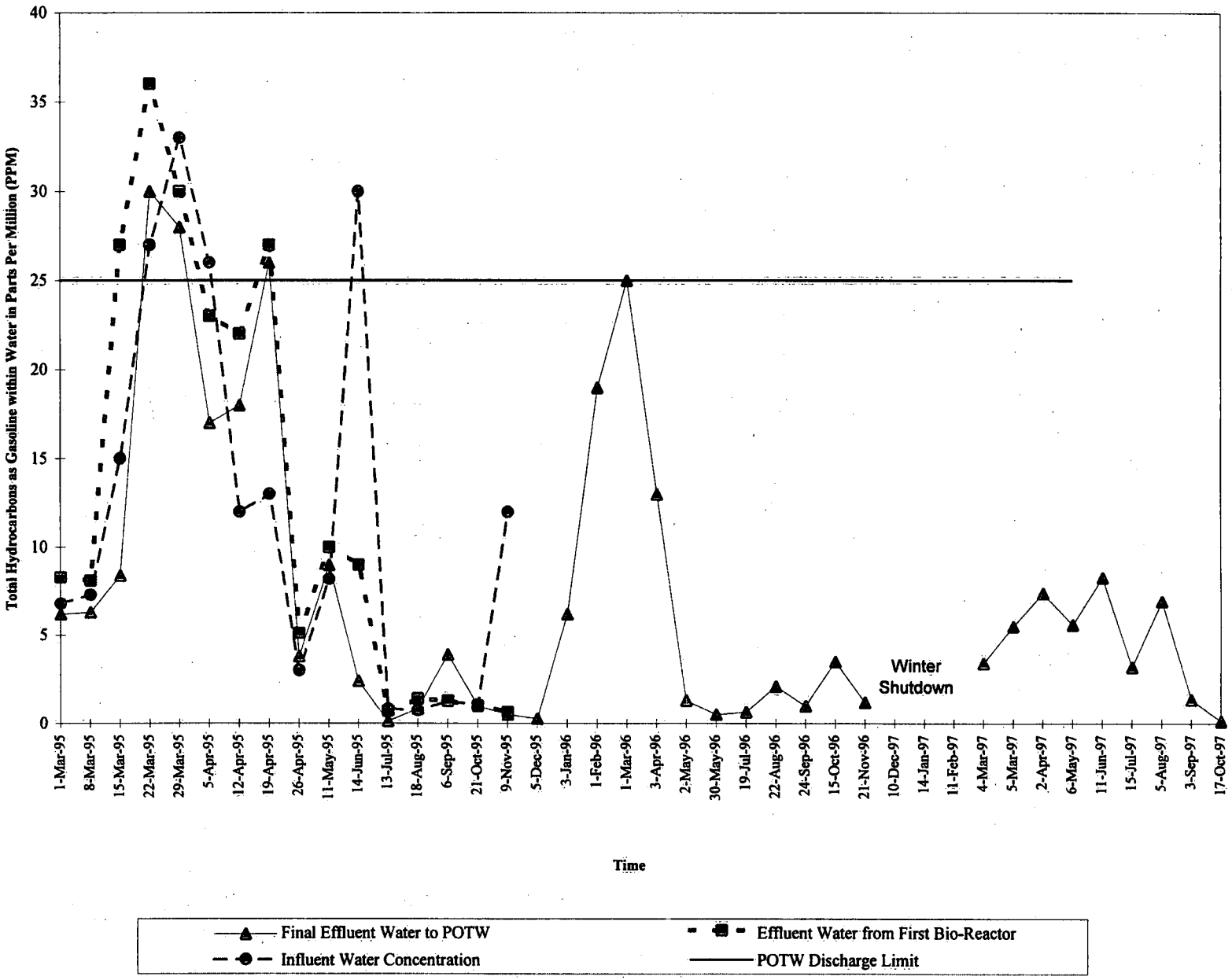
Monitoring Wells showing Detects

Part V.b Monitoring Well Concentrations Over Time (Since August 1995)



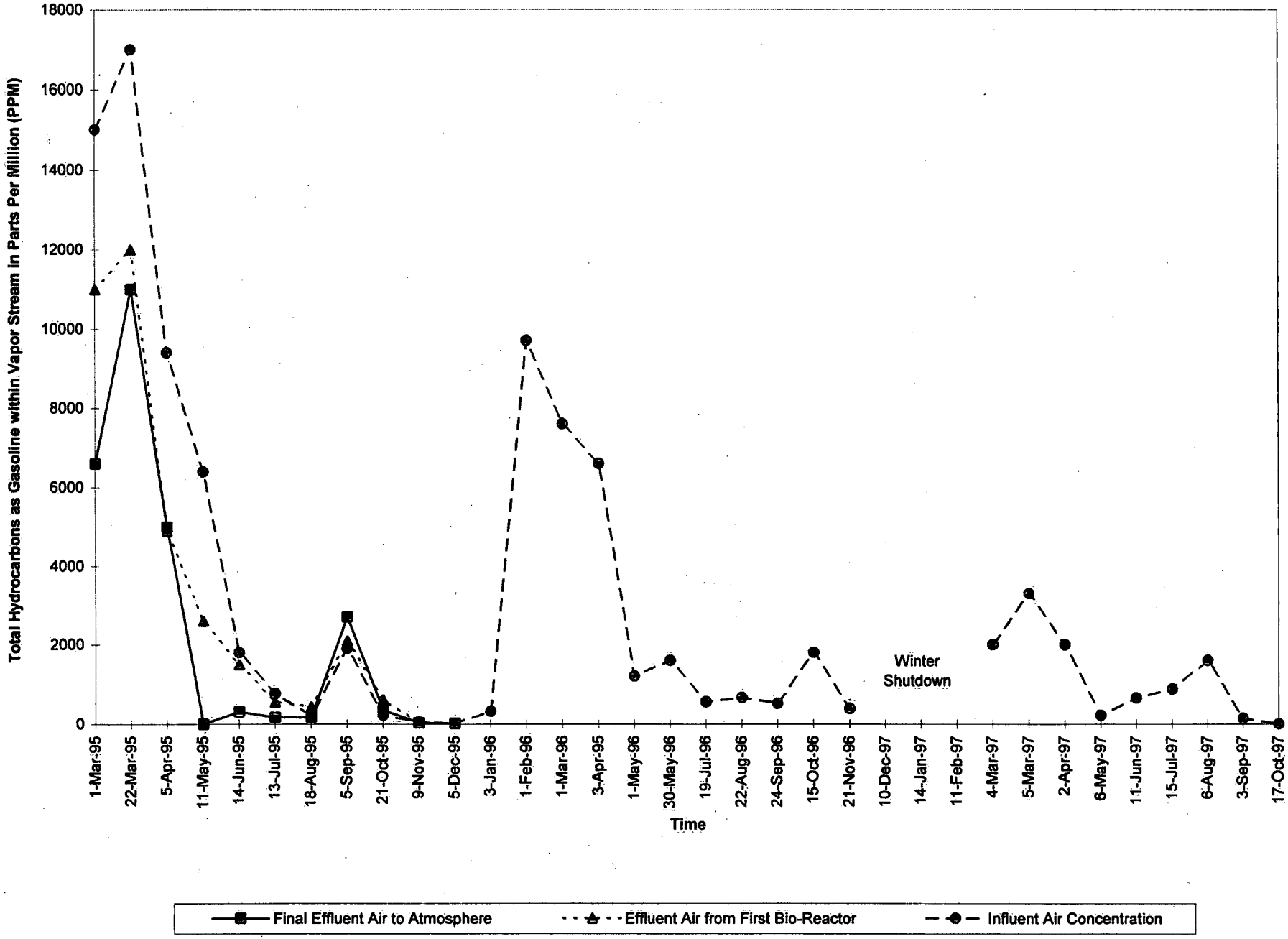
Monitoring Wells showing Detects

Part VI.a Water Treatment Concentrations Over Time



Effective January 1, 1996 Influent Water and Effluent Water from First Bio-Reactor samples were not collected due to Bio-System bypass

Part VII.a Vapor Concentrations Over Time



Effective January 1, 1996 Influent Air and Effluent Air from First Bio-Reactor samples were not collected due to Bio-System bypass

Part VIII

Summary of Quarterly Monitoring Results

PART VIII

Summary of Quarterly Monitoring Results

This quarterly reports covers the period of operation for August, September, and October 1997. Monthly sampling of groundwater monitoring wells was performed and vapor samples from the treatment system were taken throughout the quarter.

Results of the data quality assessment included as Part II of this Attachment A indicate the quality of data collected during the quarter is acceptable and all results are usable with only minor qualifications.

Groundwater Monitoring/Treatment System Results For Water

Part V presents the graphical results of sampling from 14 groundwater monitoring wells during the quarter and Part III the summary of analytical data collected. Detectable concentrations of gasoline and BTEX were measured in **6** of the wells in **August, and October, and 7 of the wells in September 1997**. Concentrations of gasoline were measured by method M8015V and levels of BTEX were measured by method SW8020. All monitoring wells with levels of gasoline contamination greater than the reporting limit as measured by method M8015 were selected for graphical presentation in Part V. Concentrations of gasoline and BTEX were highest from MW10, located near the original center of the groundwater contamination plume. Gasoline concentrations measured in monitoring wells were as follows:

Table 2- Hydrocarbon Concentrations

Well No	TPH Concentration in Aug. (mg/l)	TPH Concentration in Sept. (mg/l)	TPH Concentration in Oct. (mg/l)
MW-1	ND	0.126	ND
MW-2	1.88	3.93	2.5
MW-3	ND	ND	ND
MW-4	.911	3.3	1.9
MW-6	ND	ND	ND
MW-8	2.54	4.57	4.1
MW-9	4.93	1.27	1.50
MW-10	21.6	36.1	14.1
MW-14	ND	ND	ND
MW-15	ND	ND	ND
VMP01	ND	ND	ND
VMP02	20.8	12.6	12.9
NGMW01	ND	ND	ND
NGMW06	ND	ND	ND

PART VIII

Summary of Quarterly Monitoring Results (Continued)

Overall, concentrations of gasoline measured from the 14 wells **decreased** from an average of **3.76 mg/l** as gasoline in **August** to **2.64 mg/l** in **October**. BTEX concentrations generally coincided with measured concentrations of gasoline since BTEX compounds are components of gasoline. (Refer to Part III for complete details).

Part VI presents the graphical results of water treatment concentrations collected during the quarter and Part IV presents the summary of analytical data collected. The effluent to POTW water sample result collected in **August, September, and October** indicates hydrocarbons measured as gasoline well below the 25 ppm POTW discharge limit (**6.94 mg/l, 1.36 mg/l, and .14 mg/l, respectively**). Effluent concentrations to the system have been consistently below the discharge limit for the past **nine** quarters of monitoring.

During piping modifications and equipment overhaul of the system, Jacobs installed a new sample collection point for sampling the POTW discharge stream. The new sampling port allows for sampling the discharge stream after mixing with the seal water from the extraction skids takes place. The decrease in final effluent concentrations reflects this modification. October results of the effluent water better represent the actual discharge concentrations to the POTW.

During **August through October**, extraction wells RW-1, RW-2, RW-3, RW-4, RW-9, and RW-10, RW-11, RW-12 were online. Recovery wells RW-11 and RW-12 lie within the area of highest concentration within the site.

The **average** effluent water concentration measured as gasoline over the period of **August, September, and October** was **2.8 ppm**. The total effluent load of gasoline extracted from the groundwater over **90** days is some **26** pounds calculated using effluent concentration data and effluent totalizer readings between 8/15/97 and 11/10/97.

Treatment System Results for Vapor

Part VII presents the graphical results of vapor treatment concentrations over time and Part IV the summary of analytical data collected from the treatment system. Concentrations of influent soil gas vapor as gasoline during **August, September, and October** were measured at **1600 ppmv, 140 ppmv, and 0.93 ppmv, respectively.** This change in concentration is due to non-continuous operation in this period. As the number and location of active extraction wells are changed, the concentration of gasoline in the vapor will change accordingly. An estimated average flow of 85 cubic feet per minute (cfm) is processed through the system based on system air flow measurements. The total air flow processed during the quarter was some **8,8123,000** cubic feet or **122,000** cubic feet per day (cfd).

The total vapor phase TPH treated over the quarter is some **1,400** pounds based on the vapor concentration. To date, approximately **67,800** pounds of volatile hydrocarbons have been removed from the recovery wells.

JACOBS ENGINEERING

December 15, 1997

Transmittal
Tr# 97U011

TO: Mr. Rich Haavisto
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FROM: Mike Sajadi MS
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Jacobs Engineering Group
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ON: Contract No. DACA05-92-D-0040, Delivery Order 15
JEG Project No. 27-H103-15 Vernal,Utah - Vernal Naples Truck Stop

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ENCL NO.	DRAWING OR SPEC NUMBER	REV.	DESCRIPTION	DATE
1.		0	POLREP #52/JE #33 Quarterly Report	12 Dec 97

REMARKS:

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